Mathematical Reflection

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1. a. You can tell when three line segments will make a triangle is because the line segment can form a triangle if the sum of the first two side lengths are greater than the third.

For example: The numbers 2, 4, and 5 can make a triangle because 2+4 is greater than 5. The numbers 3, 4, and 9 cannot make a triangle because 3+4 is less than 9.

b. It is not possible to build a different triangle with the same three segments because any other triangle would be congruent to the first triangle.

1. a. You can tell when four line segments will make a quadrilateral because the first three side lengths are greater than the fourth.

For example: The numbers 4, 5, 2, and 9 can make an quadrilateral because 4+5+2 is greater than 9.The numbers 3, 5, 1, and 11 cannot make a quadrilateral because 3+5+1 is greater than 11.

b. Yes, it is possible to build a different quadrilateral out of the same four line segments because the angles can be different. You could make up to infinity different quadrilaterals out of the same line segments.

1. Triangles are useful in building structures because they are rigid, stable, and they are strong.